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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/585,319	07/06/2006	Mitsuo Honma	2006_1055A	2246
513 7590 11/26/2010 WENDEROTH, LIND & PONACK, L.L.P. 1030 15th Street, N.W., Suite 400 East Washington, DC 20005-1503				
EXAMINER ROSATI, BRANDON MICHAEL				
ART UNIT 3744		PAPER NUMBER		
NOTIFICATION DATE 11/26/2010		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ddalecki@wenderoth.com  
coa@wenderoth.com

### Office Action Summary

**Application No.**

10/585,319

**Applicant(s)**

HONMA, MITSUO

**Examiner**

BRANDON M. ROSATI

**Art Unit**

3744

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 37-56 is/are pending in the application.
- 4a) Of the above claim(s) 45-52, 54 and 55 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 37-44, 53, and 56 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/06)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(c), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(c) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/18/2010 has been entered.

***Election/Restrictions***

2. The Examiner would like to reiterate the constructive election of original presentation set forth in the Final Rejection, which has not been addressed by applicant. Claims 45-52, 54, and 55 are again WITHDRAWN by the Examiner. Please see the Election/Restriction set forth in the Final Office Action dated 6/18/2010.

***Specification***

3. The specification was received on 10/18/2010. The specification is ACCEPTED.

***Claim Rejections - 35 USC § 103***

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 37-39, 42, 44, 53, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. Patent No. 3,232,344) in view of Hopkins (GB 2,146,423 A) in further view of Gier Jr. (U.S. Patent No. 3,407,874).

Regarding claims 37 and 53, Andersson et al. disclose in Figures 2, 3a, and 3b, all the claimed limitations including a heat sink (i.e. heat exchanger) comprising fins (2), which are

metal wires wound into coils, both right handed and left handed (see Figures 3a and 3b), a thermally conductive base plate (1), with agglutinant (i.e. welds) (as per claim 53) and the coils are in close contact with one another to form air gaps and have contact parts (i.e. part contacting the base) (Column 2, lines 10-54). Although Andersson et al. show the use of both left handed and right handed coils individually used, it does not should the use of both right handed and left handed coils on the base simultaneously or coils physically touching each other having both air gaps and contact parts. However, Hopkins disclose in Figure 3, a base plate which has right handed and left handed coils. Hence, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the teachings of Andersson et al. with the coils of Hopkins because this configuration would allow for the coils to be easily placed on the base, thus making the manufacturing of the device simpler. Further, Gier Jr. disclose the concept of having two coils (i.e. strips (2 and 3) physically contacting each other with air gaps (see Figures 2 and 3 and Column 5, lines 40-45). Hence, it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to modify the combined teachings of Andersson et al. and Hopkins with the physically touching coils of Gier Jr. because this would help the coils to maintain satisfactory dimensional accuracy as well as help to maintain spacing.

Regarding claim 38, the combined teachings of Andersson et al., Hopkins, and Gier Jr. disclose the contact parts being thermally coupled (see Andersson et al. Figure 2).

Regarding claim 39, the combined teachings of Andersson et al., Hopkins, and Gier Jr. disclose fins (2) which are disposed relative to the base in a standing manner (see Andersson et al. Figure 2).

Regarding claim 42, the combined teachings of Andersson et al., Hopkins, and Gier Jr. disclose flat surfaces of the fins (i.e. bottoms) arranged parallel to the base plate (see Andersson et al. Figure 2).

Regarding claims 44 and 56, the combined teachings of Andersson et al., Hopkins, and Gier Jr. disclose flat metal wires (see Andersson et al. Figures 3a and 3b).

6. Claims 40 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. Patent No. 3,232,344) in view of Hopkins (GB 2,146,423 A) in view of Gier Jr. (U.S. Patent No. 3,407,874) in further view of Marukasa (JP 05166982 A) .

Regarding claim 40, the combined teachings of Andersson et al., Hopkins, and Gier Jr. disclose all the claimed limitations except having the fins be disposed in a groove. However, Marukasa disclose in Figure 1, fins which are in a groove in the base plate. Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the combined teachings of Andersson et al., Hopkins, and Gier Jr. with the groove in the base plate of Marukasa, because this would allow for more surface area of the fins to be in contact with the base plate, thus increasing the overall amount of heat transfer.

Regarding claim 41, the combined teachings of Andersson et al. Hopkins, Gier Jr., and Marukasa disclose all the claimed limitations including the fins being thermally coupled to the groove (see Figure 1 of Marukasa).

7. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Andersson et al. (U.S. Patent No. 3,232,344) in view of Hopkins (GB 2,146,423 A) in view of Gier Jr. (U.S. Patent No. 3,407,874) in further view of Kimura (JP 03014300 A).

Regarding claims 43, the combined teachings of Andersson et al., Hopkins, and Gier Jr. disclose all the claimed limitations except utilizing ferrite powder in the heat sink. However, Kimura discusses the concept of utilizing a heat sink (see abstract). Hence, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the combined teachings of Andersson et al., Hopkins, and Gier Jr. with the ferrite powder of Kimura because the powder would allow for noise to be shielded without losing heat sink effect. It is noted that Kimura teaches a general teaching of ferrite powder on the base (i.e. plate) and thus the ferrite powder would fill the voids between the fins and the base plate.

***Response to Arguments***

8. Applicant's arguments with respect to claims 37-44, 53, and 56 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Akachi (U.S. Patent No. 5,490,558) discusses a heat sink.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRANDON M. ROSATI whose telephone number is (571)270-3536. The examiner can normally be reached on Monday-Friday 8:00am- 4:30pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BMR  
11/18/2010

/Cheryl J. Tyler/  
Supervisory Patent Examiner, Art Unit  
3744